

the lift arm assembly having a lift arm and a cylinder, and (v) the cylinder being secured to the lift arm, comprising the steps of:

51 forming a box boom configuration on the lift arm to define a boom having a substantially rectangular cross-section that extends over a predetermined portion of the boom equal to or greater than one-half of the length;

positioning the linkage assembly in a predetermined manner with the boom;

actuating the cylinder so as to move a pin from a first pin position to a second pin position, wherein (i) the pin is spaced apart from the first coupling aperture when the pin is located in the first pin position, and (ii) the pin extends through the first coupling aperture when the pin is located in the second pin position; and

viewing the pin when the pin is located in the second pin position by the operator from a position within the cab, wherein the view of the pin by the operator from the position within the cab is unobstructed by the linkage assembly.

REMARKS

Reconsideration of the claims is respectfully requested.

Claims 1-3, 5-11, 13-18 and 20-25 are included in this application. By this amendment, Claim 21 has been amended. A prompt and favorable action on the merits is requested. Applicants would like to thank the Examiner for the allowance of Claims 1-3, 5-11, 13-18 and 20. No new matter has been added by this amendment.

Claims 21-22 and 24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Burton (5769596) in view of Wiechman (6099236) or vice versa. Further, Claims 21-25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kovacs (5678979) in view of Burton (5769596) or Wiechman (6099236). Applicants have amended Claim 21 to clearly distinguish the claim from the prior art.

In particular, Claim 21 now recites that the lift arm is formed from a box boom configuration to define a boom having a substantially rectangular cross-section that extends over a predetermined portion of the boom equal to or greater than one-half of the length. Further, the linkage assembly is positioned in a predetermined manner with the boom to allow for the unobstructed view to the pin. The Examiner argues that Wiechman clearly

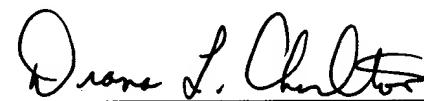
utilizes a box boom lift arm (due to the disclosure in column 3, lines 45-47) that extends the full length of the arms. However, it is clear from Figs. 1-2 that the cross-section of the Wiechman boom is not substantially rectangular over a predetermined portion of the boom equal to or greater than one-half the length. In fact, the Wiechman boom only has a true rectangular cross-section at the portion connecting the side arms and does not extend one-half the length or greater of the entire boom. Applicants' design allows for the strength advantages of a true box boom because the rectangular cross-section extends along one-half or more of its length. Contrary to Wiechman, Applicants' box boom incorporates this stronger design with a linkage assembly positioned in a manner to allow the unobstructed view disclosed in Claim 21. Heretofore, the combination of this type of box boom design, along with a suitable linkage assembly, has not provided this capability (as seen in Fig. 22 of the present application). More accurately, Wiechman has created a box boom that has numerous "box-type sections" which substantially lessens the strength characteristics of the boom. Applicants emphatically believe that the use of the rectangular cross-sectional boom, along with the linkage assembly, as disclosed in Claim 21, is NOT obvious in that Wiechman could have designed such a box boom and chose not to, instead choosing a lesser strength boom design having multiple box-type sections of varying cross-section. further, none of the prior art references teach or suggest an ability to view the pin of the cylinder from the cab of a work machine utilizing a lift arm having such a box boom configuration as disclosed in Applicants' Claim 21. Because all claim limitations must be considered, and none of the prior art references teach or suggest utilization of such a box boom configuration, Independent Claim 21 should be allowable. Therefore, Applicants respectfully submit that Claim 21 is in condition for allowance and Applicants respectfully request the allowance of Claim 21.

Further, Claims 22-25 are dependent, either directly or indirectly, from Claim 21 and include additional limitations therein. Therefore, Applicants respectfully submit that Claims 22-25 are in condition for allowance and Applicants respectfully request the allowance of Claims 22-25.

The remaining cited references have been reviewed and it is believed that they are of no significance to the claims in issue.

In view of the foregoing amendment and remarks, it is submitted that claims 1-3, 5-11, 13-18 and 20-25 are fully in condition for allowance, and the passing on to issuance of the instant application is respectfully urged.

Respectfully submitted,


Diana L. Charlton
Diana L. Charlton
Registration No. 36,103
Caterpillar Inc.

Telephone: (309) 675-5083

Facsimile: (309) 675-1236

Enclosures

DLC:vlm

T:VLM\97-679AF2.DOC

Marked Up Copy of Amendments pursuant to 37 CFR 1.121

Title: METHOD OF VERIFYING COUPLING OF AN IMPLEMENT TO A WORK MACHINE

Application No. 09/016,739

Attorney Docket No. 99-679

Claims

21. (Twice Amended) A method of verifying proper coupling of an implement assembly to a lift arm assembly by an operator who is located in a cab of a work machine, with (i) the work machine including the implement assembly, the lift arm assembly, and a linkage assembly mechanically coupled to the implement assembly (ii) the implement assembly including a hinge plate, (iii) the hinge plate having a first coupling aperture extending therethrough, (iv) the lift arm assembly having a lift arm and a cylinder, and (v) the cylinder being secured to the lift arm, comprising the steps of:

[utilizing a lift arm having a defined length and a box boom configuration, the] forming a box boom configuration on the lift arm to define a boom having a substantially rectangular cross-section that extends over a predetermined portion of the boom equal to or greater than one-half of the length;

positioning the linkage assembly in a predetermined manner with the boom;

actuating the cylinder so as to move a pin from a first pin position to a second pin position, wherein (i) the pin is spaced apart from the first coupling aperture when the pin is located in the first pin position, and (ii) the pin extends through the first coupling aperture when the pin is located in the second pin position; and

viewing the pin when the pin is located in the second pin position by the operator from a position within the cab, wherein the view of the pin by the operator from the position within the cab is unobstructed by the linkage assembly.